Hookworm Disease

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Hookworm Disease

And How to Prevent It

What is Hookworm Disease?—A disease due to the presence in the bowels of many small worms, called hookworms, which make the person become pale and weak and also cause other symptoms.

By What Other Names Is Hookworm Called?—Miners' disease, dirt eaters' disease, and by other names.

Why Is It Sometimes Called Miners' Disease?—Because it is very common in certain countries among miners and those who work in tunnels.

In What Part of the United States Does Hookworm Disease Mostly Occur?—It occurs chiefly in the states south of the Potomac and Ohio rivers, in Louisiana, Arkansas, Texas, in certain parts of California, and in some of the southwestern states.

What Is the Hookworm?—It is a small worm, whitish in color, not quite half an inch long and as thick as a small hairpin; it can easily be seen with the unaided eye in the bowel discharge of a person suffering from hookworm disease. The grown worms live in the bowels of persons who have the disease and soon die after they are discharged.

How is Hookworm Disease Spread?—A person who has the disease spreads it by allowing the bowel discharge to fall upon the ground either for the lack of a privy or by using one that is not properly made. The worms in the bowels lay hundreds of small eggs and these are passed with the bowel discharges.

What Happens to the Eggs?—Under favorable conditions as to temperature and moisture the eggs hatch in one or several days into tiny worms; these little worms feed, shed their skin twice in about a week, then stop feeding, and are ready for a chance to enter the body of some person. This stage is known as the "infestive" stage.

Can the Hookworm at This State of Its Life Live for a Long Time?—Yes, a few of the "infestive" worms may live for months in moist soils.

How Does the Hookworm Get Into the Body of a Person?—Young worms get in by boring through the skin.

How Can We Tell That the Young Worms Have Bored Through the Skin; Do They Cause Any Symptoms?—Yes; they cause a swelling of the skin, which itches and is known as "ground-itch," "dew-itch," "cow-itch," and because it is usually on the feet is also called "toe-itch" or "foot-itch."

FIGURE 1. This shows the young worm a short time after it escapes from the egg-shell. The bottle-shaped structure at the blunt end is the gullet, and the darker organ following this is the intestine. This worm crawls or is scattered around on the ground. It feeds for about eight days or more, according to conditions, storing up food and growing; during this process it sheds its skin twice, much like a snake.

What Has Ground-itch To Do with Hookworm Disease?—Ground-itch is the first stage of hookworm disease and if you prevent ground-itch you prevent hookworm disease.

After the Young Worms Bore into the Skin What Then Happens?—The young worms continue to bore into the body and finally get into the blood, which carries them from the heart into the lungs; from the lungs they get into the throat, and finally pass into the bowels.

Are They Full Grown When They Get Into the Bowels or Do They Develop?—After they get into the bowels they grow much larger.

What Effect Do the Worms in the Bowel Have Upon the Person?—They affect the person in several ways. The hookworm fastens by its mouth to the bowel and sucks the blood and when it lets go to move to another place the wound may ooze for hours. To make the blood flow more freely the worm injects a poisonous secretion which does harm to the person. The small wounds made by the worms may form little sores and become inflamed and the germs of other diseases may get

in through these wounds. The poison which the worm forms, seems to affect the blood of the patient.

What Effect Does the Loss of Blood Have on the Person?—It causes the blood to become thin and watery so that it cannot nourish the growing bones and muscles as it should.

What Are the Symptoms of Hookworm Disease?—In the severe cases, due to the presence of many worms in the bowels, the patient's lips and gums are pale, the skin is a pasty yellow, the abdomen may be swollen, as also may the feet and legs. The patient's mind is dull and he has no energy to do anything. He often desires unusual things to eat, and many of the sick persons even eat dirt, clay, etc.

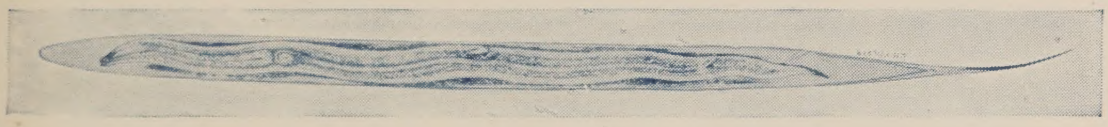

FIGURE 2. This represents the worm five to six days after it has shed its skin the first time; it now no longer takes food until it enters man. It may live just so long as it can live on the food which it has already eaten. If it becomes completely dried, it dies; therefore, it cannot be blown around in the air as dust: freezing kills it. It can wriggle up a surface which is moist. This young worm enters through the skin, usually through the bare feet when they come in contact with infested ground.

Do All Cases Have These Symptoms?—No; the mild cases where there are only a few worms in the intestine, may have only indigestion, lack of energy, and slight paleness.

What Effect Does Hookworm Disease Have on Children?—It stunts their growth, so that a child of 14 years may appear to be not over 10; it makes them backward in school and dull in their studies.

How Can You Tell That a Person Has Hookworm Disease?—By examining the bowel discharge with a microscope. The State Board of Health or your doctor will do this for you.

How Can You Tell if the Person Has Hookworm Disease by Examining the Bowel Discharges?—By finding the eggs of the hookworms in the discharges; the female hookworm lays many eggs and these are passed by the person and can be seen when a small particle of the discharges is looked at under the microscope.

How Can Hookworm Disease be Prevented?—By not soiling the ground with the discharges from the bowels. If the hookworm eggs are kept off the ground they will usually not have a

chance to hatch and infect other persons. Good privies must be built so that the ground will not become soiled, and people must be taught that they must not pass their bowel discharges on the ground. Hookworm disease can be prevented to some extent by wearing shoes, but the most effective way is to prevent soiling the ground with the discharges from the bowels.

Can Hookworm Disease be Cured?—Yes, it can be easily cured; but a person should always consult a doctor as to treatment, so that he can decide what medicine is best and how much should be taken.

FIGURE 3. A hookworm egg in process of development. At first this egg contains only one cell (see 1), which later divides into two cells (2), each of which divides, thus forming four cells (3, 4, 5); these cells keep on dividing until, sometimes by the end of eight hours, a complete young worm (see fig. 1) has been formed.

What Is Necessary to Cure the Disease?—All that is necessary is to get the worms out of the patient's bowels and the patient will then get well.

If a Person Thinks He Has Hookworm Disease What Should He Do?—He should either consult his doctor or send some of his bowel discharges to the Board of Health and have it examined for hookworm eggs. Some Boards of Health, after finding out that a person has hookworm disease, give advice as to treatment and many of them send treatment free

of charge. Write to your State Board of Health about the examination and treatment.

What Is the Most Important Way to Prevent This Disease?—The construction of sanitary toilets is by far the most important factor in the prevention of hookworm disease.

What is a "Sanitary Privy"?—A "sanitary privy" is one that keeps the flies away from the bowel discharges, and prevents these discharges from being exposed on the surface of the ground or from draining into wells or streams.

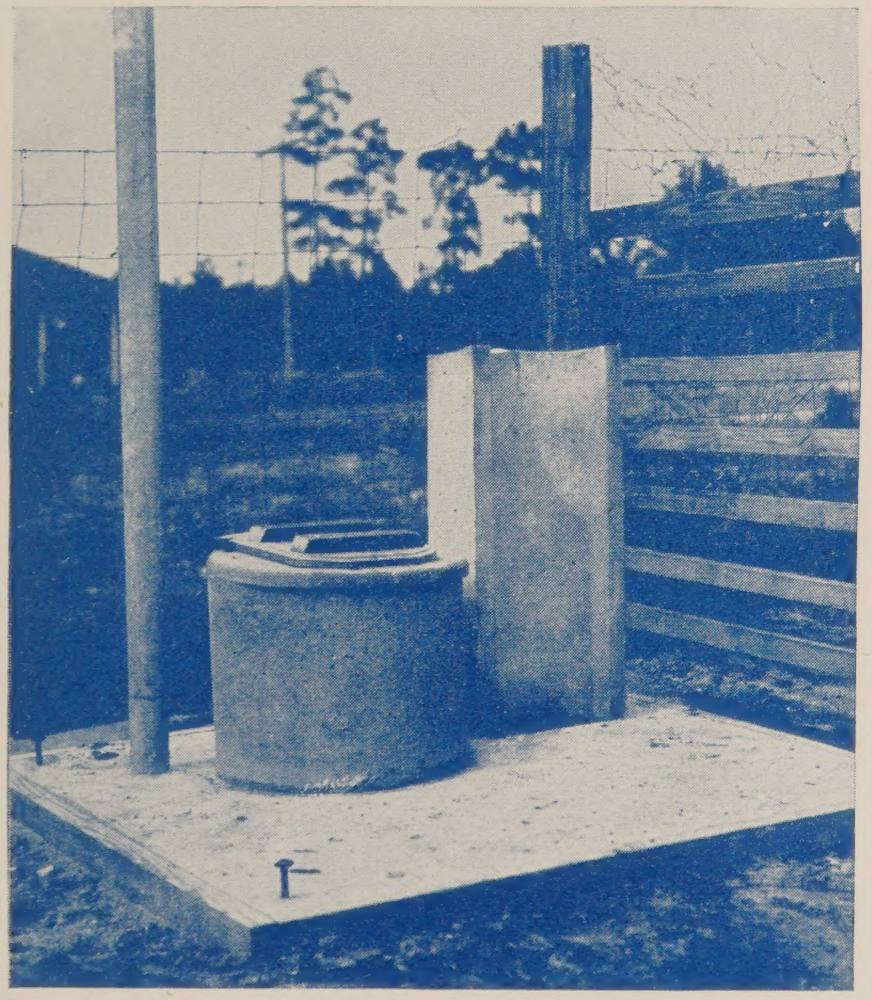

FIGURE 4. This shows the construction of a "sanitary privy" before the privy house has been built. The curb, concrete slab, riser, seat, and vent pipe all are in place.

How Is a "Sanitary Privy" built?

FIRST—A pit is dug which should be four feet (4′–0″) long, three feet (3′–0″) wide and from four to five feet (4′–5′) deep.

SECOND—Around the top of this pit a concrete curb is built. This serves as a foundation.

THIRD—On this curb is placed a concrete slab two and one-half inches ($2\frac{1}{2}''$) thick. The riser and vent pipe are fitted into this slab. The slab takes the place of the usual wooden floor.

FOURTH—The privy house is built on this slab, but the materials of the walls extend downward to the ground level.

(*To obtain more complete directions for the construction of a "Sanitary privy," write to your State Board of Health.*)

Where Ought Such a Privy to be Located?—It is safe to build a pit privy in any soil except fissured limestone, shale, porous gravel, or "crawfish" and low land.

The pit should be located as far from a well as practicable: never less than fifty feet away. Always locate the privy down grade from the well, so that no surface drainage will be carried from the privy to the well.

When the pit is located in sandy soil, or soil subject to caving, the pit should be curbed with a good grade of lumber, from the concrete curb to the bottom. It should seldom be necessary to completely sheath or curb, but merely enough to prevent caving. Exposed earth on the sides of the pit is of decided advantage.

How Long Will Such a Pit Last in Service Before Becoming Filled?—This privy is designed for five persons—an average family—and should last a number of years. A little lye or lime placed in the pit once a week will be of material benefit in its operation, and will tend to prevent odors.

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